



Water Infrastructure & You

Supporting the Infrastructure that Supports You

America's water infrastructure systems include **800,000 miles of water pipe** and **600,000 miles of sewer line**—that's enough to travel to the moon and back nearly three times!*

*Fact Sheet for Water is Life, and Infrastructure Makes it Happen™

We fill a glass of water from the tap. We wash last night's dishes. We brush our teeth every morning, take a shower, draw a bath, flush the toilet. For most Americans, it's hard to imagine a day without clean, safe water from our taps and wastewater smoothly taken away and treated. The reliability and benefits of these water systems are so expected that we take them for granted. It is often only when that infrastructure fails that we realize how much we depend on it.

The Environmental Protection Agency (EPA) is committed to educating consumers, government leaders, utility professionals and

other stakeholders on the importance of water infrastructure investment and promoting sustainable practices that will help ensure that citizens continue to enjoy the benefits of clean, safe water.

This guide outlines some facts on our nation's water infrastructure and how consumers can do their part to help protect the natural environment, make certain that the nation's water infrastructure benefits from sustained investment and ensure clean, safe water for all communities.

Learn more at <http://water.epa.gov/infrastructure/sustain>.

WHAT IS WATER INFRASTRUCTURE?

Drinking Water

- Lands in source water areas
- Reservoirs, storage & intake structures
- Treatment plants
- Pipes that deliver drinking water to the community
- Pump stations & storage tanks

Wastewater

- Pipes that move wastewater to treatment facilities
- Pump stations
- Treatment plants
- Septic systems

Stormwater

- Collection basins
- Stormwater pipes & detention ponds
- Green infrastructure approaches that infiltrate & manage water where it falls
- Land management practices that keep runoff from adversely impacting surface water or ground water

What is “water infrastructure”?

A community's water infrastructure includes all the man-made and natural features through which we move and treat water. While holistically it is all part of the same system, it is often convenient to think about infrastructure in terms of drinking water, wastewater and stormwater.

Why is water infrastructure so important?

Properly maintained and operating water infrastructure supports our daily needs for safe, clean and reliable drinking water and wastewater services. Some of the benefits of effective water infrastructure are:

- Safeguarding public health from waterborne and sewage-related infectious bacteria, viruses, parasites and toxic substances.
- Reducing harmful pollution in community waterways.
- Protecting industries such as fishing, tourism and recreation through successful stormwater and wastewater practices.
- Sustaining growth and business investment in a community through a secure, reliable water infrastructure system and a well-thought-out plan for the future.
- Contributing to a reduction of water and energy use, leading to a decrease in greenhouse gas emissions and a reduced strain on natural resources.
- Maximizing the value of infrastructure dollars spent keeps rates under control, which also helps users understand when rates need to be increased.

What is the condition of our water infrastructure in the U.S.?

Some of our water infrastructure is over 100 years old, although much of

it was built in the period following World War II. However, it is important to note that age, in and of itself, does not necessarily tell us about condition. If a system is properly installed and well maintained, it can operate over a long time period. Overall, infrastructure age, construction materials used and usage demand all factor into the health of a system at any given time.

Because of underinvestment in rehabilitation and replacement, our water infrastructure is increasingly showing signs of deterioration. In fact, it has been estimated that we now see a water line break about once every two minutes in the U.S., and the American Society of Engineers has given the condition of our drinking water and wastewater a grade of D-. More information on that report can be found at www.infrastructurereportcard.org.

How big are water infrastructure needs in the U.S.?

A 2002 EPA study estimated that if spending for capital investment and operations and maintenance remains at the current level, the potential gap in funding for 2000–2019 would be approximately \$122 billion for clean water capital costs and \$102 billion for drinking water capital costs. There is also a funding gap for operation and maintenance, which was found to be \$148 billion for clean water and \$161 billion for drinking water. This points to a total gap of over \$500 billion dollars.

Closing the gap is possible if utilities undertake the work that needs to be done to address aging infrastructure and if the public understands and supports the investments needed to ensure access to safe, clean water.



The American Society of Civil Engineers (ASCE) 2009 Report Card for America's Infrastructure gave our nation's wastewater and drinking water infrastructure an overall grade of D-.

Who pays for water infrastructure?

Most funding for drinking water and wastewater services comes from local ratepayers and taxpayers like you. In general, your water bill goes toward the cost of:

- Operating and maintaining equipment that treats water so it is safe to drink and protects valuable natural resources.
- Investing in the renewal and replacement of parts of the system that wear out, including treatment, storage and the piping that delivers water.
- Paying off long-term debts incurred to make the expensive investments required to build that water infrastructure.

There are also several sources of federal funding for water infrastructure, including both loans and grants. One of the biggest sources of funding is the Drinking Water and the Clean Water State Revolving Funds (SRF), which distribute federal money to the states that then lend the money to communities at below-market interest rates.

How will all of this affect the cost of the water services I receive?

Today, the American household spends, on average, \$523 per year on drinking water and wastewater services—that's nearly \$200 less than the average amount spent on soft drinks and non-carbonated beverages each year. Compared with other developed countries, the United States has the lowest burden for water/wastewater bills when measured as a percentage of household income.

In fact, many communities are currently paying less than the cost of delivering service. This scenario obviously cannot be sustained over the long term. Every community needs to find the best solution to meet this challenge. Utilities may need to adjust water and sewer rates to accurately reflect the true costs of providing high-quality water and wastewater services to consumers to both maintain infrastructure and plan for upcoming repairs, rehabilitation and eventual replacement.

What is the EPA doing to help meet the water infrastructure challenge?

EPA is working with the water sector to change the paradigm of how we manage our water infrastructure. It provides training, tools, information and research that help to:

- Increase efficiency and thereby reduce costs.
- Plan for a sustainable pace of water infrastructure renewal and replacement.
- Increase awareness of the value of water services and the need to invest in them.
- Foster a change from a reactive to a proactive mindset.

Through the State Revolving Loan Programs, EPA also provides low-interest loans and some grants to communities to help them pay for the high costs of water infrastructure. Funding is also available through federal agencies such as the USDA—Rural Utility Service and the Community Development Block Grant program, run by the Department of Housing and Urban Development.

How can I help ensure safe, reliable water continues to be available for me and my community?

We are all responsible for the future health of our water infrastructure.

You can:

- Not take water for granted—learn more about water conservation and preventing water pollution.
- Learn about where your drinking water comes from and where and how your wastewater is treated.
- Be informed of and provide input to local plans to meet the water and wastewater needs of your community.
- Support local officials' efforts to maintain and upgrade water and wastewater infrastructure.
- Understand that providing water services is an essential and expensive endeavor, and that we often pay less for those services than it costs to provide them.
- Participate in water conservation, water reuse and water efficiency programs available in your community. Visit EPA's WaterSense program website for more information on saving water at <http://www.epa.gov/watersense>.

Consumers, local public officials and water industry professionals must work together to make the health and safety of water a priority and act before the problem becomes a crisis.

The Congressional Budget Office estimates that many rural and urban drinking water systems lose **20% or more** of the water they produce through **leaks** in their pipes.*

* Congressional Budget Office, *Future Investment in Drinking Water and Wastewater Infrastructure* (2002)